OIV-MA-BS-10 Determination of total dry extract usual method by calculation

Type IV method

1. Principle

The total dry extract can be calculated indirectly based on the value of the density of the "residue without alcohol" or the alcoholic beverage from which the alcohol has been removed and has been returned to the original volume by adding water. This dry extract is expressed as the amount of sucrose which, dissolved in one litre of solution, has the same density.

This quantity is given by the Plato table (table 1).

2. Procedure

Density 20/20, dr, of the "residue without alcohol" is calculated by Tabarie's Formula:

$$dr = ds - da + 1{,}000$$

- where ds = density of the alcoholic beverage at 20°C compared with water at 20°C
- da = density at 20°C of the same hydroalcoholic mixture as the alcoholic beverage, relative to water at 20°C.

dr can also be calculated based on the densities at 20°C □v of the alcoholic beverage □a the hydroalcoholic mixture of the same degree by the formula

$$dr = 1{,}0018(\rho v - \rho a) + 1{,}00$$

Record the density dr of the de-alcoholised medium in Table 1 to obtain the weight of total dry extract in grams per litre.

Table 1 for the calculation of solids content

Relative density to 2 decimal points	Third decimal point of relative density									
	0	1	2	3	4	5	6	7	8	9

Determination of total dry extract by the usual calculation method (Type IV)

	Grams of extract per litre									
1,00	0,0	2,6	5,1	7,7	10,3	12,9	15,4	18,0	20,6	23,2
1,01	25,8	28,4	31,0	33,6	36,2	38,8	41,3	43,9	46,5	49,1
1,02	51,7	54,3	56,9	59,5	62,1	64,7	67,3	69,9	72,5	75,1
1,03	77,7	80,3	82,9	85,5	88,1	90,7	93,3	95,9	98,5	101,1
1,04	103,7	106,3	109,0	111,6	114,2	116,8	119,4	122,0	124,6	127,2
1,05	129,8	132,4	135,0	137,6	140,3	142,9	145,5	148,1	150,7	153,3
1,06	155,9	158,6	161,2	163,8	166,4	169,0	171,6	174,3	176,9	179,5
1,07	182,1	184,8	187,4	190,0	192,6	195,2	197,8	200,5	203,1	205,8
1,08	208,4	211,0	213,6	216,2	218,9	221,5	224,1	226,8	229,4	232,0
1,09	234,7	237,3	239,9	242,5	245,2	247,8	250,4	253,1	255,7	258,4
1,10	261,0	263,6	266,3	268,9	271,5	274,2	276,8	279,5	282,1	284,8
1,11	287,4	290,0	292,7	295,3	298,0	300,6	303,3	305,9	308,6	311,2
1,12	313,9	316,5	319,2	321,8	324,5	327,1	329,8	332,4	335,1	337,8
1,13	340,4	343,0	345,7	348,3	351,0	353,7	356,3	359,0	361,6	364,3
1,14	366,9	369,6	372,3	375,0	377,6	380,3	382,9	385,6	388,3	390,9
1,15	393,6	396,2	398,9	401,6	404,3	406,9	409,6	412,3	415,0	417,6
1,16	420,3	423,0	425,7	428,3	431,0	433,7	436,4	439,0	441,7	444,4
1,17	447,1	449,8	452,4	455,2	457,8	460,5	463,2	465,9	468,6	471,3
1,18	473,9	476,6	479,3	482,0	484,7	487,4	490,1	492,8	495,5	498,2
1,19	500,9	503,5	506,2	508,9	511,6	514,3	517,0	519,7	522,4	525,1

1,20	527,8	-	-	-	-	-	-	-	-	-

Interpolation table

Fourth decimal point of relative density	Grams of extract per litre	Fourth decimal point of relative density	Grams of extract per litre	Fourth decimal point of relative density	Grams of extract per litre
1	0,3	4	1,0	7	1,8
2	0,5	5	1,3	8	2,1
3	0,8	6	1,6	9	2,3